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ABSTRACT OF THE DISCLOSURE

An improved method of selectively suppressing deployment of a vehicular inflatable restraint utilizes dynamic variation in the apparent weight of a vehicle occupant to infer a free mass of the seat occupant. The free mass of the occupant is inferred by filtering out portions of a weight-responsive signal due to occupant position adjustment and inferring the occupant free mass based on the variation of the apparent weight with respect to the variation in vertical acceleration of the vehicle. The decision to allow or suppress deployment of the restraint is determined based on a comparison of the static weight reading with at least one threshold, and the occupant free mass is used to adjust the threshold in a direction to minimize the overall variability of the system. Measures of the seat belt tension and the seat temperature are also be used to adjust the threshold in a direction to minimize system variability.

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